



ROLLS-ROYCE PLC
% Rolls-Royce plc
Intellectual Property Department
PO Box 31, Moor Lane
DERBY
DE24 8BJ

Your Reference: DY3017
Application No: GB 0219461.1

10 February 2003

The Patent Office
Patents Directorate

Concept House
Cardiff Road, Newport
South Wales NP10 8QQ

Examiner: 01633 813549
E-mail: brian.woods@patent.gov.uk
Switchboard: 01633 814000
Fax: 01633 814444
Minicom: 08459 222250
DX: 722540/41 Cleppa Park 3
<http://www.patent.gov.uk>

Dear Sirs

Patents Act 1977: Search Report under Section 17(5)

I enclose two copies of my search report and a copy of the citations.

Publication

I estimate that, provided you have met all formal requirements, preparations for publication of your application will be completed soon after **13 January 2004**. You will then receive a letter informing you of completion and telling you the publication number and date of publication.

Amendment/withdrawal

If you wish to file amended claims for inclusion with the published application, or to withdraw the application to prevent publication, you must do so before the preparations for publication are completed. **No reminder will be issued.** If you write to the Office less than 3 weeks before the above completion date, please mark your letter prominently: **"URGENT - PUBLICATION IMMINENT".**

Yours faithfully

Brian A Woods
Examiner

[†]**Use of E-mail:** Please note that e-mail should be used for correspondence only.



Application No: GB 0219461.1
Claims searched: 1-23

Examiner: Brian A Woods
Date of search: 10 February 2003

Patents Act 1977 : Search Report under Section 17

Documents considered to be relevant:

Category	Relevant to claims	Identity of document and passage or figure of particular relevance
X	1	EP 1199522 A2 (AERO & IND) See whole document, but specifically figure 1 noting air inlets and swirlers 30, 20 & 9; inner and outer filming surfaces 5 & 7, both having a downstream edge; fuel inlets 12 & 22. It is considered that the air flow condition ejecting from the swirlers provides fluid flow mixing to the filmer affected zone.
X	1	EP 0678708 A2 (ROLLS) See whole document, but specifically figure 3 noting air inlets 38,39, filming surface with downstream edge 36, fuel inlet 28, and downstream mixing means 48. It is considered that the lip 48 provides fluid flow mixing.
X	1	US 6272840 (CFD) See whole document, but specifically figure 1 noting air inlets 21 & 23, filming surface with downstream edge 44, and fuel inlet 66. It is considered that the air flow through swirler 18 provides fluid flow mixing.
X	1	US 6161387 (UNITED) See whole document, but specifically figure 4 noting inner air supply 50, filming surfaces with downstream edges 60, and fuel inlets 66,64. It is considered that the air flow ejecting from swirler vanes 54 provides fluid flow mixing to the filmed fuel.
X	1	US 5505045 (TEXTRON) See whole document, noting inner air supply 40, filming surfaces with downstream edges, and fuel inlets 25,27. It is considered that the air flow ejecting from swirler vanes 83 and 93 provides fluid flow mixing to the filmed fuel.
X	1	US 4365753 (PARKER) See whole document, but specifically figure 4 noting air inlet 25, filming surface with downstream edge 28, film 26, and fuel inlets 15 & 19. It is considered that the primary fuel flow condition ejecting from orifice 17 provides fluid flow mixing.



Application No: GB 0219461.1
Claims searched: 1-23

Examiner: Brian A Woods
Date of search: 10 February 2003

Category	Relevant to claims	Identity of document and passage or figure of particular relevance

Categories:

X Document indicating lack of novelty or inventive step	A Document indicating technological background and/or state of the art.
Y Document indicating lack of inventive step if combined with one or more other documents of same category.	P Document published on or after the declared priority date but before the filing date of this invention.
& Member of the same patent family	E Patent document published on or after, but with priority date earlier than, the filing date of this application.

Field of Search:

Search of GB, EP, WO & US patent documents classified in the following areas of the UKC⁵:

F4T

Worldwide search of patent documents classified in the following areas of the IPC⁷:

B05B; F02C; F23D; F23R

The following online and other databases have been used in the preparation of this search report:

On-Line: WPI; EPODOC; JAPIO